

MONTANA DIABETES SURVEILLANCE & CLINICAL COMMUNICATION



Montana Department of Public Health and Human Services
Chronic Disease Prevention and Health Promotion Program
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MODIFIABLE CARDIOVASCULAR RISK FACTORS IN AMERICAN INDIAN ADULTS WITH AND WITHOUT DIABETES: PREVALENCE, COUNSELING, AND AWARENESS

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BACKGROUND:

Reducing risk factors for cardiovascular disease (CVD) is of major importance for patients with diabetes.^{1,2} Recognizing and addressing modifiable cardiovascular risk in individuals with diabetes is of particular concern for American Indians. Cardiovascular disease is the leading cause of death in American Indians and Alaska Natives, and diabetes is the strongest risk factor for heart disease in these populations.³ This report presents the prevalence of modifiable risk factors for CVD, counseling, and awareness of heart disease risk factors in Montana Indians in 1999 and 2001, and compares the responses of those with and without diabetes.

METHODS:

The Montana Department of Public Health and Human Services (DPHHS) conducted an adapted BRFSS telephone survey of adult American Indians living on or near Montana's seven reservations in 1999 and 2001. Trained interviewers made telephone calls to a random sample of households located on or near each reservation. The number of calls was proportional to the

number of Indians living on each reservation according to the 1990 Census. Persons 18 years of age and older who reported being Indian were included, and a total of 1,000 and 1,006 surveys of Indian adults were completed in 1999 and 2001, respectively.

In 1999 and 2001 respondents were asked about diabetes, CVD and risk factors for CVD. Respondents who reported they had ever had a myocardial infarction or heart attack, angina, or stroke were categorized as having CVD. Respondents were asked if they had ever been told by a physician that they had high blood pressure, high cholesterol, or diabetes. Respondents were considered current smokers if they smoked cigarettes every day or some days. Reported height and weight were used to calculate a body mass index (BMI, kg/m²), and a value ≥ 25.0 was defined as overweight. Respondents were also asked, “We consider regular exercise to be any physical activity that you perform 3 times a week for 30 minutes at a time, or 5 times a week for 20 minutes at a time. Do you consider yourself to be a regular exerciser?” Those who responded “no” were classified as getting insufficient physical activity.

To assess health care utilization, respondents were asked how many times they had seen a doctor, nurse, or other health care professional in the past 12 months. In 1999 questions regarding smoking cessation were included; in 2001 respondents were asked about counseling to reduce fat and cholesterol intake, to increase fruit and vegetable intake and physical activity. Respondents were asked about risk factors in 2001, “What

things do you think increase the likelihood of getting heart disease such as a heart attack or stroke? Is it: a family history or genetics; poor diet; being overweight; little physical activity; smoking; high blood pressure; high cholesterol; and diabetes.” And to assess perceived risk, respondents were asked, “Do you think you are at risk for heart disease?”

RESULTS:

In 1999 and 2001, 11% reported a history of CVD and 14% of respondents reported a diagnosis of diabetes. Twenty-eight percent reported high blood pressure, and 26% reported high cholesterol. Seventy-four percent of respondents were overweight, 52% had insufficient regular physical activity, and 40% smoked cigarettes.

The majority of participants had one or more health care visits in the past year in 1999 (94%) and 2001 (95%). Of those with a visit within the past year, 59% of current smokers recalled smoking cessation counseling, 28% recalled advice to eat less fat and cholesterol, 38% to eat more fruit and vegetables, and 41% to increase physical activity. Most were aware of the risk factors for heart disease, including unhealthy diet (85%), overweight (89%), insufficient physical activity (86%), smoking (87%), high blood pressure (88%), and high cholesterol (85%). Awareness of risk was somewhat lower for a family history of heart disease (76%) and diabetes (70%). Almost half of respondents (49%) perceived themselves to be at risk for heart disease.

Table 1. Cardiovascular disease (CVD), modifiable risk factors, and counseling for modifiable risk factors among adult American Indians with and without diabetes, 1999 and 2001.

	WITH DIABETES	WITHOUT DIABETES	
CVD and modifiable risk factors	# (%)	# (%)	AOR*
CVD	76 (27)+	135 (8)	2.29 (1.62-3.21)
Insufficient physical activity	166 (60)+	883 (51)	1.17 (.89-1.54)
Overweight**	228 (89)+	1,178 (71)	2.99 (1.97-4.52)
High blood pressure	159 (57)+	410 (24)	2.76 (2.08-3.65)
High cholesterol	101 (44)+	233 (22)	2.24 (1.64-3.05)
Smoking	93 (34)	698 (41)+	.89 (.67-1.18)

+P≤0.05

*Odds ratio adjusting for age, sex and year

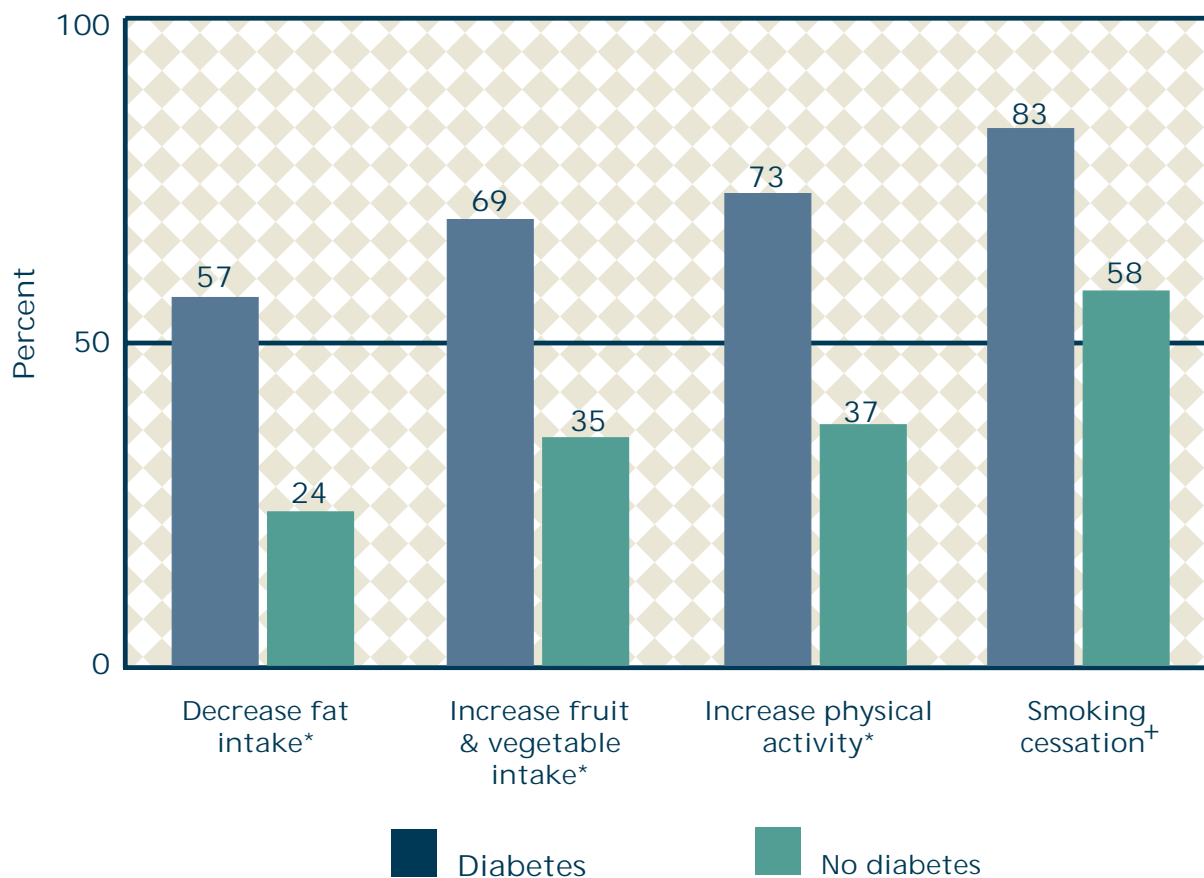
** BMI ≥25.0 kgm²

Respondents with diabetes were more likely to report a history of CVD, high blood pressure, high cholesterol, to have insufficient physical activity, and to be overweight compared to those without diabetes (Table 1). However, after adjustment (for age, sex, year), there were no differences between groups for insufficient physical activity or smoking.

After adjusting for age and sex, respondents

with diabetes were more likely to report health professional counseling for diet, physical activity, and smoking cessation (figure 1). Respondents with diabetes were more likely to be aware of diabetes as a risk factor for heart disease and to perceive themselves at risk for heart disease compared to those without diabetes (Table 2). However, there were no differences in awareness of other risk factors for heart disease between groups after age and sex adjustment.

Figure 1. Percent of adult American Indian respondents with and without diabetes who received counseling for modifiable risk factors, 1999 and 2001.



(*Includes respondents from 2001 with one or more visits to a health professional in the past year. †Includes respondents from 1999 with one or more visits to a health professional in the past year who currently smoke).

Table 2. Awareness of cardiovascular disease risk factors and preceived risk of heart disease among adult American Indians with and without diabetes, 2001.

	WITH DIABETES	WITHOUT DIABETES	
	# (%)	# (%)	AQR*
Awareness of heart disease risk factors			
Genetics or a family history	114 (73)	652 (77)	1.02 (.68-1.53)
Unhealthy diet	122 (78)	733 (86)*	.80 (.50-1.53)
Overweight	140 (90)	750 (88)	1.81 (.99-3.30)
Insufficient physical activity	126 (81)	733 (86)	.94 (.58-1.53)
Smoking	134 (86)	745 (88)	1.15 (.67-1.96)
High blood pressure	135 (87)	745 (88)	1.15 (.68-1.95)
High Cholesterol	127 (81)	730 (86)	.98 (.61-1.58)
Diabetes	131 (84)*	569 (67)	2.96 (1.84-4.75)
At risk for heart disease	119 (76)*	373 (44)	3.49 (2.33-5.24)

+P≤ 0.05

*Odds ratio adjusting for age and sex

CONCLUSIONS:

American Indian adults with diabetes were more likely to report CVD compared to respondents without diabetes, and, as reported in other populations, modifiable cardiovascular risk factors were clustered in the individuals with diabetes.⁴ Although the awareness of risk factors for heart disease

was high among all respondents, only three quarters of the American Indian respondents were aware that a positive family history was a risk factor for heart disease. Among respondents with diabetes, 84% recognized diabetes as a risk factor for heart disease although 76% accurately perceived that they were at risk for heart disease.

There are a number of limitations to these analyses. Although, in 1990 approximately 78% of Montana Indian households had telephones, our estimates of CVD and modifiable cardiovascular risk factors are likely underestimated, because a previous study among Indians found that adults living in households without telephones had a higher prevalence of risk behaviors compared to those in households with telephones.⁵ With self-reported information regarding CVD and modifiable risk factors, there is potential for recall bias. However, information on diabetes and other modifiable risk factors has been found to be reported reliably.

The need to manage modifiable cardiovascular risk factors aggressively is just as great among American Indians patients with diabetes as among non-Indians. This is particularly important in that diabetes is now considered an “equivalent” to having a previous myocardial infarction.⁶ Preventive counseling for smoking cessation, physical activity, and healthy nutrition is effective, but strategies may vary for different groups. Strategies to improve health professional counseling for patients with diabetes as well as those at high risk for diabetes and heart disease are needed for all populations in Montana.

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MOTIVATIONAL CONFERENCE — SAVE THE DATE!

Upcoming Conference on Motivational Interviewing for Health Behavior Change —
October 25, 26, 2002, Holiday Inn Parkside, Missoula, MT.
Presented by Christine Fiore, Ph.D.

Motivational Interviewing is a communications approach to facilitating change for people facing the need to modify health behavior. Health care professionals are often well prepared to provide educational expertise but rarely have been provided with the tools for dealing with those who “are not ready” for information. This workshop will provide two days of training in the philosophy and skills found to be helpful in motivating people for change and assisting people to maintain change. CEs will be available for this workshop in most health care areas. The cost will be \$200 for the 2 days. Reduced room rates will be available at the Holiday Inn Parkside. For more information contact Chris at cfiore@selway.umt.edu or Meredith Hariton at 406-243-4523.

WHAT IS THE MONTANA DIABETES PROJECT AND HOW CAN WE BE CONTACTED:

The Montana Diabetes Project is funded through a cooperative agreement with the Centers for Disease Control and Prevention, Division of Diabetes Translation (U32/CCU815663-04). The mission of the Diabetes Project is to reduce the burden of diabetes and its complications among Montanans. Our web page can be accessed at <http://ahec.msu.montana.edu/diabetes/default.htm>.

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